

# Species

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## New Distributional Record of *Gynautocera papilionaria* Guerin-Meneville (Lepidoptera: Zygaenidae) from Bihar

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### Peer-Review History

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### Peer-Review Model

External peer-review was done through double-blind method.

### ABSTRACT

*Gynautocera papilionaria* Guerin-Meneville is observed and photographed for the first time from Maher village situated in Gaya district.

**Keywords:** - Burnet moth, Zygaenidae, Bihar.

## 1. INTRODUCTION

The day flying bright color burnet moths having crepuscular wings with slow flight and typically diurnal belongs to family zygaenidae. The zygaenidae family is divided into four sub families viz., Zygaeninae, Chalcosiinae, Pseudinae and Himantoptinae according to their morphological characters. In the order Lepidoptera (Heterocera) zygaenidae is an important family representing more than 315 species and sub species previously reported in Indian sub-region (Fletcher, 1925) In which chalcosiinae represent, 26 genera and about 80 species and subspecies.

During field visit and collection in Dec 2020 Jan 2021, two live and one parasitic infected caterpillar specimen was collected during afternoon hours on the *Adhatoda vassica* plantation near Maher village in Bihar. The Collected specimen identified as a rare moth belongs to the sub-family Chalcosiinae was *Gynautocera papilionaria* Guerin-Meneville which represents only one species known to occur in India. Literature study revealed that said moth was not reported from Bihar till date. However, Distribution of this species have been reported from Orissa and West Bengal by Mandal and Maulik (1991) and recently reported from Dalma wildlife Sanctuary, Jharkhand by Sambath (2013). The distribution of this moth is only reported in the Jharkhand from Eastern region. Hence, this is the first-hand report for first time from Bihar.

## 2. MATERIALS AND METHODS

The specimens were collected during field observations in Jan-2021 by hand picking method. Three penultimate instar caterpillars of bright yellow color with some black tubercles were collected from leaves of *Adhatoda vassica* plants at chest height along the road edge at village Maher (Bihar).

**Material Examined:** - Bihar, Maher, *Adhatoda Vassica*, *G. Papilionera* Larvae, Parasitic wasp.

**Distribution:** - India; Bihar, Assam, Jharkhand, West Bengal, Uttar Pradesh, Himalayas, Meghalaya, Nagaland.

**GPS Co-ordinates of new location:** - Latitude: - N0240 43.158'

Longitude: - E0850 08.992'

**Diagnostic Features:** - Caterpillar was bright yellow in color having black tubercles, with Black circular spiracles (Visible on first to eighth abdominal segments) on each Segment there were uniformly conical tubercles along the dorsum and each tubercle tipped with 2 Seta. The longest tubercles were located at the 1st to 3rd abdominal Segments and the smallest was located at 1st thoracic segment. Prothoracic shield on the first thoracic segment has hardened and black in color on the prothorax multiple setae present on the cervical shield. Prolegs bearing uniordinal crochets arranged in mesoserries. (Literature followed for identification; Fletcher 1924, Peterson, A. 1956)

**Measurement:** - Length- 2.24 cm, Width with tubercles - 0.85 cm, Width without tubercles- 0.53 cm

### 3. RESULTS



**Figure 1.** The caterpillar of *Gynautocera papilionaria* Guerin-Maneville was resting mode with head concealed beneath first thoracic segment.



**Figure 2.** The caterpillar of *Gynautocera papilionaria* Guerin-Maneville infected of parasitic wasp.

#### 4. DISCUSSION

When the larvae were in resting, Head was concealed beneath its first thoracic segment. If larvae disturbed secrets grey color liquid may be for defensive strategy. According to Isaac Kehimkar (1997) some of the species of this family mimics the distasteful milkweed butterflies and Arctiid moths. As distasteful encounter increases predators quickly learn avoid similar color moths and the bright colors serve to warn predators, principally birds to keep away. The movement of parasitized larvae found very slow or stagnant at same place.

#### Acknowledgement

We are highly grateful to Sankararaman H. (Annamalai University) for help us in identification confirmation.

#### Authors Contribution

First author and second author done the field survey, taken images and prepared the paper while senior author helped in identification and literature review along with supervision during the survey.

#### Ethical approval

*Gynautocera papilionaria* Guerin-Maneville is observed in the study from Bihar. The ethical guidelines are followed in the study for collection & identification of species.

#### Funding

This study has not received any external funding.

#### Conflicts of interests

The authors declare that there are no conflicts of interests.

#### Data and materials availability

All data associated with this study are present in the paper.

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